

Reference: PPI Polyethylene Design Handbook



Pipe Data

Pressure Water Flow

ref. Ch.6, eqn. 2-12, pp. 175-177

$$P_f = \frac{0.0009015L}{D_i^{4.8655}} \left(\frac{100Q}{C} \right)^{1.85}$$

Hazen-Williams Equation

Information

Date	09-09-2015
Project	Gold King Divert
Engineer Name	Canyon
Comments	

Variables

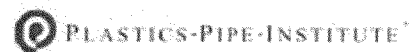
D _o	6.625	Pipe Outside Diameter, in
DR	11	Dimension Ratio

Result

Calculated for: P_f

L	2100	Length Of Line, ft
D _i	5.348	Pipe Inside Diameter, in
Q	1000	Flow Rate, gpm
C	150	Hazen-Williams Friction Factor
P _f	90.85	Pressure Loss, psi
V	14.3	Fluid Velocity, fps

Reference: PPI Polyethylene Design Handbook

**Pipe Data****Pressure Water Flow**

ref. Ch.6, eqn. 2-12, pp. 175-177

$$P_f = \frac{0.0009015L}{D_i^{4.8655}} \left(\frac{100Q}{C} \right)^{1.85}$$

Hazen-Williams Equation

Information

Date	09-09-2015
Project	Gold King Divert 600gpm
Engineer Name	
Comments	

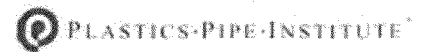
Variables

D _o	6.625	Pipe Outside Diameter, in
DR	11	Dimension Ratio

Result**Calculated for: P_f**

L	2100	Length Of Line, ft
D _i	5.348	Pipe Inside Diameter, in
Q	600	Flow Rate, gpm
C	150	Hazen-Williams Friction Factor
P _f	35.31	Pressure Loss, psi
V	8.6	Fluid Velocity, fps

Reference: PPI Polyethylene Design Handbook

**Water Flow****Gravity Water Flow**
 ref. Ch.6, eqn. 2-36, pp. 186-188
 ref. Ch.6, eqn. 2-29, pp. 186-188

$$Q = 0.275 \left(\frac{D_i^{8/3} S_H^{1/2}}{n} \right) \quad V = \frac{1.486}{n} \left(\frac{D_i}{48} \right)^{2/3} S_H^{1/2}$$

ref. eqn. 2-36 (pages 186-188)

ref. eqn. 2-29 (pages 186-188)

Information

Date	09-09-2015
Project	
Engineer Name	
Comments	

Variables

D _o	6.625	Pipe Outside Diameter, in
DR	11	Dimension Ratio

Result**Calculated for: Q**

Q	597.61	1/2-Full or Full Pipe Flow, gpm
D _i	5.348	Pipe Inside Diameter, in
n	0.009	Manning Flow Coefficient
S _H	.05	Hydraulic Slope [decimal value for vertical drop (ft)/horizontal run(ft)]
V	8.55	Fluid Velocity, fps